

SEQUENCE LISTING

<110> Skinner, Michael K.

Patton, Jodi L.

<120> A METHOD OF DETERMINING TUMOR CHARACTERISTICS BY
DETERMINING ABNORMAL COPY NUMBER OR EXPRESSION LEVEL OF
LIPID-ASSOCIATED GENES

<130> PATRICK EAGLEMAN: EMBOL-X 252/124

<140>

<141>

<160> 95

<170> PatentIn Ver. 2.0

<210> 1

<211> 2045

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (2045)

<223> The sequence of the cDNA coding for
1-acylglycerol-3-phosphate acyltransferase

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<221> gene

<222> (1)..(1554)

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dehydrogenase (5 family, member A1)

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<210> 3

<211> 2051

<212> DNA

<213> Homo sapiens

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<221> gene

<222> (1) .. (2051)

<223> The sequence of the cDNA coding for

Choline/ethanolamine phosphotransferase

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<213> Homo sapiens

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<222> (1) .. (3758)

<223> The sequence of the cDNA coding for Diacylglycerol
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<213> Homo sapiens

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<221> gene

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<212> DNA

<213> Homo sapiens

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<221> gene

<222> (1)..(2757)

<223> The sequence of the cDNA coding for EDG-1

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 cgagagatgt cttgtttttt taaaaagaat agtatttaat aggtttctga cttttgtgga 2700
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<210> 7

<211> 1217

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1217)

<223> The sequence of the cDNA coding for EDG-2

<400> 7

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acaagaaaat ttgtctcccg tagttctggg gcgtgttcac cacctacaac cacagagctg 120
tcatggctgc catctctact tccatccctg taatttcaca gcccagttc acagccatga 180
atgaaccaca gtgcttctac aacgagtcca ttgccttctt ttataaccga agtggaaagc 240
atcttgccac agaatggaac acagtcagca agctggatgat gggacttgga atcactgttt 300
gtatcttcat catgttggcc aacctattgg tcatgggtggc aatctatgtc aaccgcccgt 360
tccattttcc tatttattac ctaatggcta atctggctgc tgcagacttc tttgctgggt 420
tggcctactt ctatctcatg ttcaacacag gaccaatac tcggagactg actgtcagca 480
catggctcct tcgtcagggc ctcatgaca ccagcctgac ggcattctgtg gccaaacttac 540
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ccaccttttag gcagatcctc tgctgccagc gcagtgagaa cccacccggc cccacagaag 1140
gctcagaccg ctcgggttcc tccctcaacc acaccatctt ggctggagtt cacagcaatg 1200
atcactctgt ggttttag 1217

<210> 8

<211> 1137

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1137)

<223> The sequence of the cDNA coding for EDG-3

<400> 8

atggcaactg ccctcccgcc gcgtctccag ccggtgcggg ggaacgagac cctgcgggag 60
cattaccagt acgtggggaa gttggcgggc aggtgaagg aggcctccga gggcagcacg 120
ctcaccaccg tgctcttctt ggtcatctgc agcttcatcg tcttgagaa cctgatgggtt 180
ttgattgcca tctggaaaaa caataaattt cacaaccgca tgtacttttt cattggcaac 240
ctggctctct gcgacctgct ggccggcatc gcttacaagg tcaacattct gatgtctggc 300
aagaagacgt tcagcctgtc tcccacggc tggttcctca gggagggcag tatgttcgtg 360
gcccttgggg cgtccacctg cagcttactg gccatcgcca tcgagcggca cttgacaatg 420
atcaaaatga ggcttacga cgccaacaag aggcaccgcg tcttcctcct gatcgggatg 480
tgctggctca ttgccttcac gctgggcgcc ctgcccattc tgggctggaa ctgcctgcac 540
aatctccctg actgctctac catcctgccc ctctactcca agaagtacat tgccttctgc 600
atcagcatct tcacggccat cctggtgacc atcgtgatcc tctacgcacg catctacttc 660
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 gccagcaagg agatgcggcg ggcttcttcc cgtctggtct gcaactgcct ggtcagggga 960
 cggggggccc gcgcctcacc catccagcct gcgctcgacc caagcagaag taaatcaagc 1020
 agcagcaaca atagcagcca ctctccgaag gtcaaggaag acctgcccc caacagacccc 1080
 tcctcctgca tcattggaaa gaacgcagca cttcagaatg ggatcttctg caactga 1137

<210> 9

<211> 1056

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1056)

<223> The sequence of the cDNA coding for EDG-4

<400> 9

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 ggcaaagagc tcagctccca ctggcggccc aaggatgtgg tcgtgggtggc actggggctg 120
 accgtcagcg tgctgggtgct gctgaccaat ctgctggtca tagcagccat cgcctccaac 180
 cgccgcttcc accagcccat ctactacctg ctcggaatc tggccgcggc tgacctcttc 240
 gggggcgtgg cctacctctt cctcatgttc cacactggtc cccgcacagc ccgactttca 300
 cttgagggct ggttctctcg gcagggcttg ctggacacaa gcctcactgc gtcgggtggcc 360
 aactgctgg ccctcgccgt ggagcggcac cgcagtgtga tggccgtgca gctgcacagc 420
 cgctgcccc gtggccgcgt ggtcatgctc attgtgggcg tgtgggtggc tgccctgggc 480
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cgcatggcag agcatgtcag ctgccacccc cgctaccgag agaccacgct cagcctggtc 720
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 gagatgcgcc gcaccttcgg ccgccttctc tgctgcgctg gcctccgcca gtccaccgcg 960
 gagtctgtcc actatacatc ctctgccag ggaggtgccg gcactcgcat catgcttccc 1020
 gagaacggcc acccactgat ggactccacc ctttag 1056

<210> 10

<211> 1062

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1062)

<223> The sequence of the cDNA coding for EDG-5

<400> 10

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 gtcacacctt gttgcgcat tgtgggtggaa aaccttctgg tgctcattgc ggtggcccga 180
 aacagcaagt tccactcggc aatgtacctg tttctgggca acctggccgc ctccgatcta 240
 ctggcaggcg tggccttcgt agccaatacc ttgctctctg gctctgtcac gctgaggctg 300
 acgcctgtgc agtggtttgc ccgggagggc tctgcctcca tcacgctctc ggccctctgtc 360
 ttcagcctcc tggccatcgc cattgagcgc cacgtggcca ttgccaaggt caagctgtat 420
 ggcagcgaca agagctgccg catgcttctg ctcatcgggg cctcgtggct catctcgctg 480
 gtctcgggtg gcctgcccac ccttggtctg aactgcctgg gccacctcga ggccctgtcc 540

actgtcctgc ctctctacgc caagcattat gtgctgtgcg tggtagccat cttctccatc 600
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 gtccactcct gcccgatcct ctacaaagcc cactactttt tcgccgtctc caccctgaat 840
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 cggccgctgc agtgcctggc gccgggggtg ggggtgcaag gacggaggcg ggtcgggacc 960
 ccgggccacc acctcctgcc actccgcagc tccagctccc tggagagggg catgcacatg 1020
 cccacgtcac ccacgtttct ggagggcaac acggtggtct ga 1062

<210> 11

<211> 1566

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1566)

<223> The sequence of the cDNA coding for EDG-6

<400> 11

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 ccaacagctg gcggccggcg ggcacagccg gtcattgtt ctgcactaca accactcggg 120
 ccggctggcc gggcgcgggg ggccggagga tggcggcctg ggggccctgc gggggctgtc 180
 ggtggccgcc agctgcctgg tggtagctgga gaacttgctg gtgctggcgg ccatcaccag 240
 ccacatgcgg tcgcgacgct ggggtctacta ttgcctggtg aacatcacgc tgagtgaacct 300
 gctcacgggc gcggcctacc tggccaacgt gctgctgtcg ggggcccgca ctttcgtct 360
 ggcgcccccc cagtggttcc tacgggaggg cctgctcttc accgccctgg ccgcctccac 420
 cttcagcctg ctcttcactg caggggagcg ctttgccacc atggtgcggc cggtggccga 480

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gagcggggcc accaagacca gccgcgtcta cggttcata ggcctctgct ggctgctggc 540
cgcgctgctg gggatgctgc ctttgcggg ctggaactgc ctgtgcgct ttgaccgctg 600
ctccagcctt ctgccccct actccaagcg ctacatcctc ttctgcctgg tgatcttcgc 660
cggcgtcctg gccaccatca tgggcctcta tggggccata ttccgcctgg tgcaggccag 720
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gtgcagccac cgggtgcgtg ccaggcaggc cctcctgggg tacaggaagc tgtgtgcacg 1260
cagcctcgcc tgtatgggga gcagggaacg ggacaggccc ccattggtctt cccggtggcc 1320
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ccgcttctg tgtgattctg gggaagtccc ggcctctctc tgggcctcag tagggctccc 1500
aggctgcaag ggggtggactg tgggatgcat gccttgcaa cattgaagtt cgatcatggt 1560
aaaaaa
1566

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<210> 12

<211> 1148

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1148)

<223> The sequence of the cDNA coding for EDG-7

<400> 12

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gacaagcaca tggacttttt ttataatagg agcaacactg atactgtcga tgactggaca 120
ggaacaaagc ttgtgattgt tttgtgtgtt gggacgtttt tctgcctggt tatttttttt 180
tctaattctc tggatcatgc ggcagtgatc aaaaacagaa aatttcattt ccccttctac 240
tacctgttgg ctaatttagc tgctgccgat ttcttcgctg gaattgccta tgtattcctg 300
atgtttaaca caggcccagt ttcaaaaact ttgactgtca accgctgggt tctccgtcag 360
gggcttctgg acagtagctt gactgcttcc ctcaccaact tgctgggttat cgccgtggag 420
aggcacatgt caatcatgag gatgcggtgc catagcaacc tgaccaaaaa gagggtgaca 480
ctgctcattt tgcttgtctg ggccatcgcc atttttatgg gggcgggtccc cacactgggc 540
tggaattgcc tctgcaacat ctctgcctgc tcttccctgg cccccattta cagcaggagt 600
taccttgttt tctggacagt gtccaacctc atggccttcc tcatcatggt tgtggtgtac 660
ctgcggatct acgtgtacgt caagaggaaa accaacgtct tgtctccgca tacaagtggg 720
tccatcagcc gccggaggac acccatgaag ctaatgaaga cggatgatgac tgtcttaggg 780
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gtcctcagca ggagtgcac aggcagccag tacatagagg atagtattag ccaaggtgca 1080
gtctgcaata aaagcattc ctaaactctg gatgcctctc ggcccaccca ggtgatgact 1140
gtcttagg                                     1148
```

<210> 13

<211> 1606

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1606)

<223> The sequence of the cDNA coding for
Glycerol-3-phosphate dehydrogenase

<400> 13

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gctgccgggg ctctccgcct cccccacct gtatgaggct gggctctgggg aacctgtgct 120
cagcattcca cccctggag cttgggcttg gtcttccttg cgggtccctg cgctgacatt 180
caggcgggga gccaggaggc ctggcgcgcc tccagagccc gccgggggag ccgggcgagg 240
gttctgggct ctgacggcgg ggtcgcaggg tcgcccgcct cctggacacg tctgtaggcc 300
tagggaagcc tgccggccgg gaggtacaga gtaggagaag ccagatccca gggcggacaa 360
cgagaagtcg tcaggctaag aaatggcatt tcaaaaggca gtgaaaggga cgattcttgt 420
tggaggaggt gctcttgcaa ctgttttagg actttctcag tttgctcatt acagaaggaa 480
acaaatgaac ctggcctatg ttaaagcagc agactgcatt tcagaaccag ttaacaggga 540
gcctccttcc agagaagctc agctactgac ttgcaaaat acatctgaat ttgatatact 600
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cctcacaggg caggaatttg acgtgagagc caaatgtgtt atcaatgcc aaggaccttt 1260
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cacggactct gtgcgcaaaa tggatgataa agacgcagca gctatctgcc agccaagtgc 1320
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 agcgaccagt gatgggagag ttattttctt ctaccctgg caaaagatga cgatcgctgg 1440
 cactactgat actccaactg atgttacaca ccatccaatt ccttcagaag aagatatcaa 1500
 cttcattttg aatgaagtgc gtaattacct gagttgtgat gttgaagtga gaagagggga 1560
 tgtcctggca gcatggagtg gaatccgtcc tcttgttaca gacccc 1606

<210> 14

<211> 2417

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (2417)

<223> The sequence of the cDNA coding for
 Lyosphospholipase I

<400> 14

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 cgctgcccgc catcgtgccc gccgcccga aggccaccgc tgcggtgatt ttcttgcatt 120
 gattgggaga tactgggcac ggatgggcag aagcctttgc aggtatcaga agttcacata 180
 tcaaatatat ctgcccgcgt gcgcctgtta ggctgttac attaaatatg aacgtggcta 240
 tgccttcatg gtttgatatt attgggcttt caccagattc acaggaggat gaatctggga 300
 ttaaacaggc agcagaaaat ataaaagctt tgattgatca agaagtgaag aatggcattc 360
 cttctaacag aattattttg ggaggggttt ctcagggagg agctttatct ttatatactg 420
 cccttaccac acagcagaaa ctggcagggtg tcaactgcact cagttgctgg cttccacttc 480
 gggcttcctt tccacagggt cctatcggtg gtgctaatag agatatttct attctccagt 540
 gccacgggga ttgtgaccct ttggttcccc tgatgtttgg ttctcttacg gtggaaaaac 600

taaaaacatt ggtgaatcca gccaatgtga cctttaaaac ctatgaaggt atgatgcaca 660
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 ttgattgacg tcaactaagag gccttgtgta gaagtacacc agcatcattg tagtagagtg 780
 taaacctttt cccatgcccc gtcttcaaat ttctaattgtt ttgcagtgtt aaaatgtttt 840
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 ttaagtttct atacatgtat tcttataaga cgaccagga tctactatat tagaatagat 960
 gaagcaggta gcttcttttt tctcaaagt aattcagcaa aataatacag tactgccacc 1020
 agatttttta ttacatcatt tgaaaattag cagtatgctt aatgaaaatt tgttcaggta 1080
 taaatgagca gttaagatat aaacaattta tgcattgtgt gacttagtct atggatttat 1140
 tccaaaattg cttagtcacc atgcagtgtc tgtattttta tatatgtgtt catatatata 1200
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 tgggtaataa aggctagtca gaacctata ccataaagt tagttaccat acagattaat 2040
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 gctgaccaa acaatattaa gaatgcatct ttataaatgg gtgctaattg ataatggaaa 2160
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 taaaaatttt aaacaatcat ttactatgtc atttttctt accttgaaga acataaactg' 2280

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<210> 15

<211> 1192

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1192)

<223> The sequence of the cDNA coding for Human

Lysophospholipase Homolog

<400> 15

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gtggttggtg aatgcaaacg ccagcacata atggaaacag gacctgaaga cccttcacg 180
atgccagagg aaagtcccc caggcggacc ccgcagagca ttccctacca ggacctccct 240
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cactccatgg gaggcgcat cgccatcctc acggccgcag agaggccggg ccacttcgcc 600
ggcatggtac tcatttcgcc tctggttctt gccaatcctg aatctgcaac aactttcaag 660
gtccttgctg cgaaagtgt caaccttggt ctgccaaact tgtccctcgg gcccatcgac 720
tccagcgtgc tctctcggaa taagacagag gtgcacattt ataactcaga cccctgatc 780

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 tccccacct gaatgcattg gccggtgccc ggctcatggt ctgggggatg caggcagggg 1140
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<210> 16

<211> 2333

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (2333)

<223> The sequence of the cDNA coding for
 N-acylsphingosine amidohydrolase

<400> 16

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 cctatcctcc ttcaggacca acgtacagag gtgcagttcc atggtacacc ataaatcttg 180
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 ttttttatga attatttacc atttgtactt caatagtagc agaagacaaa aaaggtcatc 480

taatacatgg gagaaacatg gatttttgag tattttcttg gtggaacata aataatgata 540
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 acaaaactgt cttcaaggct tcaagctttg ctggctatgt gggcatgtta acaggattca 660
 aaccaggact gttcagtctt acactgaatg aacgtttcag tataaatggg gggtatctgg 720
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tttgtccact tcattttgta taatcacagt tgtgttcctg acactcaata aacagtcact 2280
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<210> 17

<211> 1016

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1016)

<223> The sequence of the cDNA coding for Phospholipase

A2

<400> 17

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gccaagga gttgctcatg ggagcagacc cctagagcag gatttgaggc caggccaaag 120
agaacccag agatgaaagg ctcctccca ctggcttggt tcttggttg tagtgtgcct 180
gctgtgcaag gaggcttgct ggacctaaaa tcaatgatcg agaagggtgac agggaagaac 240
gccctgacaa actacggctt ctacggctgt tactgcggct ggggcggccg aggaaccccc 300
aaggatggca ccgattggtg ctgttgggcg catgaccact gctatgggcg gctggaggag 360
aagggtgca acattgcac acagtcctac aaatacagat tcgcgtgggg cgtggtcacc 420
tgcgagcccg ggcccttctg ccatgtgaac ctctgtgcct gtgaccgga gctcgtctac 480
tgctcaaga gaaacctacg gagctacaac ccacagtacc aatactttcc caacatcctc 540
tgctcctagg cctccccagc gagctcctcc cagaccaaga cttttgttct gttttctac 600
aacacagagt actgactctg cctggttcct gagagaggct cctaagtcac agacctcagt 660
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gcagcccctc tggcgccaag agctctcctc caactcaggg ttggctgtgt ctcttttctt 840
ctctgaagac agcgtcctgg ctccagttgg aacactttcc tgagatgcac ttactttctca 900
gcttctgcga tcagattatc atcaccacca cctccagag aattttacgc aagaagagcc 960
aaattgactc tctaaatctg gtgtatgggt attaaataaa attcattctc aaggct 1016

<210> 18

<211> 3609

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(3609)

<223> The sequence of the cDNA coding for Phospholipase

D1 (phosphatidylcholine specific)

<400> 18

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gcagcccctt tgcttttact ctgtccaaag ttaacatgtc actgaaaaac gagccacggg 120
taaatacctc tgcactgcag aaaattgctg ctgacatgag taatatcata gaaaatctgg 180
acacgcggga actccacttt gagggagagg aggtagacta cgacgtgtct cccagcgatc 240
ccaagataca agaagtgtat atccctttct ctgctattta taacactcaa ggattttaagg 300
agcctaatat acagacgtat ctctccggct gtccaataaa agcacaagtt ctggaagtgg 360
aacgcttcac atctacaaca agggtaacca gtattaatct ttacactatt gaattaacac 420
atggggaatt taaatggcaa gttaagagga aattcaagca ttttcaagaa tttcacagag 480
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ggaggcaaaa cgtcagagag gagcctcgag agatgccag tttgccccgt tcatctgaaa 600
acatgataag agaagaacaa ttccttggtg gaagaaaaca actggaagat tacttgacaa 660
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gccagctgtc ttcatccat gatttgggac caaagggcat agaaggatg ataatgaaa 780
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 aggactgtaa acatcagcaa gactttataa ttccttctgc ctaacttgta aaaagggggc 3540
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 gccgaattc 3609

<210> 19

<211> 2893

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(2893)

<223> The sequence of the cDNA coding for Phospholipase

D1 glycosylphosphatidylinositol specific

<400> 19

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acatagaaat cggacacaga gctctggagt ttcttcatct tcacaatggg catgttaact 180
acaaagagct gttactagaa caccaggatg catatcaggc tggaaccgtg tttcctgatt 240
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gccagtttga atttaatttt aattacctg caccagcgtg gtatgtgcca gtcaaagatc 600
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 accacctatt tcc 2893

<210> 20

<211> 1362

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1362)

<223> The sequence of the cDNA coding for Phosphatidic
Acid Phosphatase type 2B

<400> 20

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tgcagttgga ggcaggcagc cccggctgca ctctagccgc cgcgcccga gccggggccg 180
accgcact atccgcagca gcctcggcca ggaggcgacc cgggcgcctg ggtgtgtggc 240
tgctgttgcg ggacgtcttc gcggggcggg aggtcgcgc cgcgccagc gccatgcaaa 300
actacaagta cgacaaagcg atcgtcccg agagcaagaa cggcggcagc ccggcgctca 360
acaacaaccc gaggaggagc ggcagcaagc ggggtgctgt catctgcctc gacctcttct 420
gcctcttcat ggcgggcctc cccttctca tcatcgagac aagcaccatc aagccttacc 480
accgagggtt ttactgcaat gatgagagca tcaagtacc actgaaaact ggtgagacaa 540
taaatgacgc tgtgctctgt gccgtggga tcgtcattgc catcctcgcg atcatcacgg 600
gggaattcta ccgatctat tacctgaaga agtcgcggtc gacgattcag aaccctacg 660
tggcagcact ctataagcaa gtgggctgct tcctctttgg ctgtgccatc agccagtctt 720
tcacagacat tgccaaagtg tccatagggc gcctgcgtcc tcacttcttg agtgtctgca 780
accctgattt cagccagatc aactgctctg aaggctacat tcagaactac agatgcagag 840
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cccgcctgct ccggccctc ctgcagttca ccttgatcat gatggccttc tacacgggac 1020
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 acaggaacaa tcaccacaac atgatgtagg tgccaccac ctctgagct gtttttgtaa 1260
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<210> 21

<211> 1043

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1043)

<223> The sequence of the cDNA coding for Phosphatidic
 Acid Phosphatase type 2a

<400> 21

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 tctattcagg ccactcttcg ttttccatgt actgcatgct gtttgtggca ctttatcttc 660

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<210> 22

<211> 5397

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (5397)

<223> The sequence of the cDNA coding for

Phosphatidylinositol-3-Kinase (class 2, gamma
polypeptide)

<400> 22

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gaaggaaacc agtcgcatag ggcattggagc tggagaacta taaacagccc gtggtgctga 360
gagaggacaa ctgccgaagg cgccggagga tgaagccgcg cagtgtctgc agcctgtcct 420

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<210> 23

<211> 3424

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(3424)

<223> The sequence of the cDNA coding for

Phosphatidylinositol-3-kinase (catalytic, alpha
polypeptide)

<400> 23

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cctctccatc aacttcttca agatgaatct tcttacattt tcgtaagtgt taccoaagaa 240
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ccatttttaa aagtaattga accagtaggc aaccgtgaag aaaagatcct caatcgagaa 360
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3424

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<210> 24

<211> 1201

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1201)

<223> The sequence of the cDNA coding for Prostate
Differentiation Factor PLAB

<400> 24

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atggctctca gatgctcctg gtgttgctgg tgctctcgtg gctgccgcat gggggcgccc 120
tgtctctggc cgaggcgagc cgcgcaagtt tcccgggacc ctcagagttg cacaccgaag 180

```



```

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cgccagaagt gcggctggga tccggcgccc acctgcacct gcgtatctct cgggcccgcc 360
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```

<210> 25

<211> 1269

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1269)

<223> The sequence of the cDNA coding for Phosphatidic

Acid Phosphatase type 2c

<400> 25

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gctgggtgaac gccccgtaca agcgaggatt ttactgcggg gatgactcca tccggtagcc 180
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<210> 26

<211> 1286

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1286)

<223> The sequence of the cDNA coding for Phosphocholine
cytidyltransferase

<400> 26

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gaagaagatg ggggttccttc caaagtgcag cgctgtgcag tgggcttacg gcaaccagct 180
cctttttctg atgaaattga agttgacttt agtaagccct atgtcagggt aactatggaa 240
gaagccagca gaggaactcc ttgtgagcga cctgtgagag tttatgccga tggaatattt 300
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gaagactaat gtttctctcc tcttttctg tcttcccttt ctgtccatt accttcagaa 1200
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gctctctgtt gaattccgaa ttgtgacccc aacactaaac ctaaggacag ctacaaagga 1260
aagacaactg gggaaagaag acctag 1286

<210> 27

<211> 1856

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1856)

<223> The sequence of the cDNA coding for Phosphate
cytidylyltransferase 2 (ethanolamine specific)

<400> 27

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ggggccatga tccggaacgg gcgcggggct gcaggcggcg cagagcagcc gggcccgggg 120
ggcaggcgcg ccgtgagggg gtggtgcatg ggctgctatg acatgggtgca ttacggccac 180
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aagcgcacgc aaggggtgtc caccacagac ctctgtgggc gcatgtgtgt ggtaacccaaa 540
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aagatcatcc agtttgcttc tgggaaggag cccagccag gggagacagt catctatgtg 720
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<210> 28

<211> 3160

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (3160)

<223> The sequence of the cDNA coding for Phosphatase
and Tenson Homolog (PTEN)

<400> 28

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gatgtggcag gactctttat gcgctgcggc aggatacgcg ctccggcgctg ggacgcgact 180
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gccccctctca gcgcctgtga gcagccgcgg gggcagcgcc ctccggggagc cggccggcct 360
gcggcgggcg cagcgggcg gtttctcgcc tctcttctgt cttttctaac cgtgcagcct 420
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aggcgcgggcg gcggcgggcg cggcacctcc cgctcctgga gcggggggga gaagcgggcg 540
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 atgatttatt aaatatgttt tctcaattgt aaaaaaaaaa 3160

<211> 1707

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(1707)

<223> The sequence of the cDNA coding for
Sphingosine-1-phosphate lyase 1

<400> 29

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gtatactcca caaaagccaa gaattatgta aatggacatt gcaccaagta tgagccctgg 120
cagctaattg catggagtgt cgtgtggacc ctgctgatag tctggggata tgagtttgtc 180
ttccagccag agagtttatg gtcaaggttt aaaaagaaat gttttaagct caccaggaag 240
atgcccatta ttggtcgtaa gattcaagac aagttgaaca agaccaagga tgatattagc 300
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caagagggga gagcctctgg aacagtgtac agtggggagg agaagctcac tgagctcctt 480
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ctacgcaaga tagaggcaga aattgtgagg atagcttggt cctgttcaa tgggggacca 600
gattcgtgtg gatgtgtgac ttctggggga acagaaagca tactcatggc ctgcaaagca 660
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 atgaatgggt ctccaaaacc cactga 1707

<210> 30

<211> 1879

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1) .. (1879)

<223> The sequence of the cDNA coding for Sphingomyelin
 phosphodiesterase 1

<400> 30

cctgccgtgt gccaatccat tgtccacctc tttgaggatg acatgggtgga ggtgtggaga 60
 cgctcagtgc tgagcccatc tgaggcctgt ggccctgctcc tgggctccac ctgtgggcac 120
 tgggacattt tctcatcttg gaacatctct ttgcctactg tgccgaagcc gcccccaaa 180
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<210> 31

<211> 3553

<212> DNA

<213> Homo sapiens

<220>

<221> gene

<222> (1)..(3553)

<223> The sequence of the cDNA coding for Phospholipase
C beta 3 (phosphatidylinositol specific)

<400> 31

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ccggcctgat gagttttcct tggaaatcct tgagcgggtc ctgaacaagc tgtgtctgcg 120
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aaaaaaaaaa aaa

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3553

<210> 32

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 32

cgacttttggc tttccatttg ctc

23

<210> 33

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 33

ccttttgtgt ttcattcttc ctctcc

26

<210> 34

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 34

aaaggagaaa gtgaaagatg tggagg

26

<210> 35

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 35

ggacagaaag ggaggacagg aaag

24

<210> 36

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 36

ccccacttca aactctttca ccc

23

<210> 37

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 37

gccatttcac tgtcacgctt tc

22

<210> 38

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 38

gctctgccaa gacattgact cc

22

<210> 39

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 39

atcatctctt cctctgcgt cc

22

<210> 40

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 40

cctacgtcac tacactagag accc

24

<210> 41

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 41

gccaaaactg tctgcatact ccc

23

<210> 42

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 42

aactgctcgg tctatgtgca gc

22

<210> 43

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 43

ccaagaacac catgcagtac atcc

24

<210> 44

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 44

gctcattcaa aagaccgaca ccg

23

<210> 45

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 45

acacagttcc atcagaccag cc

22

<210> 46

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 46

cgtctactgc ctcaagagaa acc

23

<210> 47

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 47

gtcctatgac cagagtcact ctcc

24

<210> 48

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 48

aggaagagga ggaacagaca gac

23

<210> 49

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 49

agcagcctca aaggacttga ac

22

<210> 50

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 50

aacctgctgc tgatagacca cc

22

<210> 51

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 51

tctctccact gctgcctgaa ac

22

<210> 52

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 52

gtaagcacca gccacaaaaa cc

22

<210> 53

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 53

ctaacgagcc attcccaata ccc

23

<210> 54

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 54

tggattggga gatactgggc ac

22

<210> 55

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 55

ccaaacatca ggggaaccaa agg

23

<210> 56

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 56

cctgttcttc aacatgggcc ag

22

<210> 57

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 57

cctctcaacc acctcctcaa tcttc

25

<210> 58

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 58

tcttcttccc ctaacatcac catctc

26

<210> 59

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 59

tgcatttgcc agtcattgtca cc

22

<210> 60

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 60

aaaccctctt ccttgtctcc cctc

24

<210> 61

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 61

atgtctgctt cttcccccttg tgtc

24

<210> 62

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 62

tcaacaacaa cccgaggagg ag

22

<210> 63

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 63

gatggcacag ccaaagagga ag

22

<210> 64

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 64

acttccgcct cttoctgcta atc

23

<210> 65

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 65

cctccaaacc atcttcatct tccc

24

<210> 66

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 66

atttcacagc cccagttcac agcc

24

<210> 67

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 67

tgaccacaat gaccaccact accc

24

<210> 68

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

forward primer

<400> 68

agcattacca gtacgtgggg aag

23

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 69

aacatactgc cctccctgag gaac

24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 70

taggctgtga gtcctgcaat gtcc

24

<210> 71

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 71

tcagcatctc ggcaagagta cac

23

<210> 72

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 72

aacccaaca aggtccagga acac

24

<210> 73

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 73

tttccaccac aatggcgcaa cag

23

<210> 74

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 74

aagttgcagt cttgcgtgtg

20

<210> 75

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 75

ggtggttacc tccttgcca

20

<210> 76

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 76

cttgactgct tccctcacca ac

22

<210> 77

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 77

cttttcacat gctgcacgcc

20

<210> 78

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 78

aggtggatgt gagggcaatg agaag

25

<210> 79

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 79

cgggcgtgta gtaatgtgat gcag

24

<210> 80

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 80

gcctcctctt cgtcttttct aacc

24

<210> 81

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 81

catcatcttg tgaaacaaca gtgcc

25

<210> 82

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 82

tcaaggcata ccccttcca ac

22

<210> 83

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 83

agtccagtca acacatcgct cc

22

<210> 84

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 84

tctatgctct ttccccatac ccc

23

<210> 85

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 85

gcgatataacc aggttggtgcc ag

22

<210> 86

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 86

gtgccaagtg gaaaagttat gcag

24

<210> 87

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous

reverse primer

<400> 87

tgtcaacaga tggacgaaga caag

24

<210> 88

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 88

ccccatttat cagctccatt gcc

23

<210> 89

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 89

catccccctct tctcacttca acatc

25

<210> 90

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 90

ccaacctact gcaacttctg cc

22

<210> 91

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 91

caaccccatc acactccaac tc

22

<210> 92

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 92

gctctgccaa gacattgact cc

22

<210> 93

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 93

atcatctctt cctctgcgt cc

22

<210> 94

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
forward primer

<400> 94

gttagccaag agccaggaca ag

22

<210> 95

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Miscellaneous
reverse primer

<400> 95

gcaagccata tctgagaagc catc

24